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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,789	12/12/2003	Duk-Yong Kim	5020-1-003	3480
33942	7590	07/05/2006	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			GILMAN, ALEXANDER	
			ART UNIT	PAPER NUMBER
			2833	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/734,789

Applicant(s)

KIM ET AL.

Examiner

Alexander D. Gilman

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5,7, 10-15, rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al in view of Hsueh or Caudwell.

With regard to claim 1, Wang et al (US 6,624,722) disclose a connectors-integrated directional coupler comprising:

a housing (2) having (Fig. 3) an input connector and an output connector extended from the ends end of the housing;

a main line (3) having a main bar (Fig. 3, 6) ; and sub-bars integrally extending from both ends of the main bar so that the main line connects the input connector to the output connector for delivering a signal;

a coupling plate (5) mounted on an circumferential surface of the housing (Fig. 1b, 3, 4)

and a coupling line (6) for inducing the signal from the main line thereto,

an elongated hole (Fig. 1a,) extending from the input connector to the output connector for accommodating the main line therein;

wherein the housing, the input connector, and the output connector are arranged coaxially.

Wang et al do not disclose that the connectors integrally extended from ends of the housing while teaching assembling them to the house.

Hsueh (US 5,763,830) disclose connectors (115) integrally extended from ends of the housing

Art Unit: 2833

Caudwell disclose connectors (70, 70) integrally extended from ends of the housing

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the the connectors of Wang et al as integrally formed, as taught by Hsueh or Cauwell , for easier manufacturing.

Also it would have been obvious to one having ordinary skill in the art at the time the invention was made to make connectors integrally extended from ends of the housing, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

With regard to claim 2, Wang when modified by Hsue disclose (Wang) that the coupling line comprises a coupling port (4) at one end thereof for outputting power induced from the main line.

With regard to claim 4, Wang when modified by Hsue disclose (Wang) that the housing further comprises a planar mounting surface having at least two coupling holes (Fig. 3) at an outer circumferential surface of the housing for mounting the coupling line thereon.

With regard to claim 5, Wang when modified by Hsue disclose (Wang) that the coupling line is a microstrip line (col. 4, lines 24-29).

With regard to claim 7, Wang when modified by Hsue disclose (Wang) that a planar cover having a port hole (Fig. 2) from which the coupling port protrudes for covering a top smface of the coupling line and closely fixing the coupling line to the housing.

With regard to claim 10, Wang when modified by Hsue disclose (Wang) that the input connector comprises screw threads formed on the outer circumferential stlrface thereof (Fig. 2).

Art Unit: 2833

With regard to claims 11-15, Wang when modified by Hsue disclose (Wang) that one or more Teflon support members (Fig .6) fixed in the elongated hole of the housing, spaced from each other by a predetermined distance.

Claims 8, 9, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Hsue as applied to claim 1 above, and further in view of Toma.

With regard to claims 8, 9, Wang when modified by Hsue disclose all of the limitations except for a fixing groove, a fixing ring, and a hollow cover

Toma (US 5,607,325) discloses (Fig. 5) a fixing groove (178) formed to a predetermined depth on the outer circumferential surface of the output connector;

a fixing ring (121) fit around the fixing groove, protruding to a predetermined

height from the outer circumferential surface of the first connector; and a hollow cover (116)

opened at both ends thereof and engaged with the first connector so that the hollow cover is rotatable round the first connector.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wang et al with the structure of the outer connector, as taught by Toma, to mate the Wang's coupler with the coaxial line terminated with outer screw threads.

With regard to claims 16, 17 Wang when modified by Hsue-Toma disclose (Toma) The connectors-intepated directional coupler of claim 11, further

I comprising a support member holder, the support member holder including:

a holder (116) , a guide extending from the holder toward the end of the output connector;

a guide hole penetrating the holder and an end of the guide for exposing the main line therefrom;

a gasket (122) attached to one end of the holder.

***Response to Arguments***

Applicant's arguments filed 04/10/2006 have been fully considered but they are not persuasive.

With regard to amended claim 1, Applicants argue that Wang –Hsueh or Caldwell do not disclose a cylindrical housing.

However, while Wang's embodiment discloses rectangular housing, that configuration is not a critical feature of the couplers, but rather predetermined by manufacturer's considerations. For example, Wang in Fig 8, or Machado (US 6,155,871, Fig. 1) disclose a cylindrical coupler.

As it shown, in the rejection the prior art (Wang) disclose an elongated hole in the housing for passing through the main transmission line.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

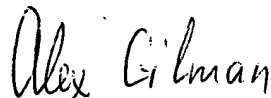
Art Unit: 2833

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

06/23/2006

Handwritten signature of Alex Gilman in cursive script.

**ALEXANDER GILMAN  
PRIMARY EXAMINER**